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PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

SERIAL NO.:	10/798,816)	EXAMINER:	Ram N. Kackar
FILING DATE:	March 10, 2004)	ART UNIT:	1763
FOR:	CLEANING OF SEMICONDUCTOR WAFERS BY CONTAMINATE ENCAPSULATION)	DATE:	October 3, 2007

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Commissioner for Patents
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APPELLANTS' REPLY BRIEF UNDER 37 CFR 41.41

This is a reply to the Examiner's Answer mailed August 16, 2007 in the subject appeal. Please charge any fees to Deposit Account No. 09-0456.

In the Examiner's Answer it is respectfully submitted that the Examiner has technically misinterpreted the prior art and this Reply Brief is being filed to clarify the actual teachings of the prior art vis-à-vis Appellants' invention.

Appellants' invention is directed to an apparatus for removing contaminate particulate matter from an integrated circuit semiconductor substrate surface in which a sacrificial coating of a curable polymer is applied to the surface to

encapsulate and suspend the undesirable particles therein. Energy means are used to dislodge at least some of the particulate matter into the polymer coating and then the coating is cured to encapsulate and suspend the contaminate particles within the polymer coating and to form a polymer film. Means are then provided to remove the cured polymer as a strippable film from the surface of the substrate to provide a substrate surface having less particulate matter thereon and a stripped film containing removed particles. It is Appellants' position that the prior art does not show removal of contaminate particles from a substrate surface as a stripped film containing the contaminate particles.

Appellants and the Examiner agree that the primary reference to Sayka, U.S. Patent No. 6,766,813, failed to disclose means for applying a sacrificial coating of a polymer, curing the polymer, and removal of particulate matter with the polymer. Sayka clearly shows removal of contaminate particles from the substrate surface by using acoustic ways to dislodge particles from the surface and directing a stream of liquid at the surface to wash away the contaminants from the substrate surface. See in particular, col. 4, the paragraph beginning at line 58.

The Examiner is citing the Malotky reference, U.S. Patent No. 5,120,369, to disclose an apparatus for removing material from the surface by spraying a polymer in solution or suspension on the surface, cross-linking the film, and then removal of the film by stripping, citing the Abstract, col. 1, lines 57-65, col. 2, lines 5-29, and col. 4, lines 13-14. It is respectfully submitted that Malotky does not show the stripping of the cured polymer film on the surface of the substrate as a polymer film

as claimed by Appellants but shows a process similar to Sayka in that contaminants are washed away from the substrate surface to remove the contaminate particles from the substrate.

At the cited col. 2, lines 5-29, the Malotky invention is summarized and discloses a method for immobilizing, decontaminating, and removing hazardous chemicals, including chemical warfare agents, from a substrate using a polymer film system. The polymer is cross-linked to form a solid film and as stated at the paragraph 2, beginning at line 24:

"In a subsequent step the solid polymer, containing a toxic chemical agent may be liquified, solubilized, or decrosslinked by the use of a satisfactory monovalent anion in water or organic solvent solution. This step may be practiced in such a manner that the sacrificial coating may be disposed of safely."

In the cited col. 4, lines 13-14, it is stated that the resultant polymer film can be easily stripped and safely disposed of. In the examples, and throughout the specification, it is clear that the polymer film is stripped by contacting the film with a cleaning solution which washes away the film. Thus, in the paragraph bridging cols. 4 and 5, it is disclosed at col. 5, beginning at line 9, that "Stripping of the panels was done with a 5% Alconox in water solution." Further, in that paragraph, starting at line 15, it is stated "To compare system effectiveness with conventional scrubbing, a series of alkyd-coated panels were treated with VX, allowed to stand for one hour, and then washed with Alconox."

It is Appellants' position that the Examiner is reading more into the Malotky reference than is disclosed in the reference. Malotky does show the forming of a polymer film containing contaminate particles but shows washing away of the polymer film and not stripping film as a polymer film as claimed by Appellants.

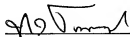
In summary, it is respectfully that both references show the washing away of particles from a substrate surface and not Appellants' invention which shows removing the contaminants in the polymer film which film is stripped from the surface of a substrate forming a stripped film containing contaminant particles and a clean substrate surface.

CONCLUSION

It is submitted that Appellants' Brief and Reply Brief addressed all the relevant issues raised by the Examiner in the Final Rejection and it is respectfully submitted the arguments set forth by the Examiner in the Examiner's Answer do not support the rejection of Appellants' claims.

For the foregoing reasons and the reasons stated in the Brief For Appellants it is respectfully requested that the Board overrule the Examiner's rejections.

Respectfully submitted,


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